REMARKS

This amendment is responsive to the Office Action of December 4, 2008. Reconsideration and allowance of claims 1, 4, and 6-26 are requested.

The Office Action

Claims 1-3, 5, and 7-24 stand rejected under 35 U.S.C. § 103 over Lee (US 2004/0039817) in view of Gunnarsson (US 2003/0118015).

Claims 4 and 6 stand rejected under 35 U.S.C. § 103 over Lee in view of Gunnarsson, further in view of Wang (US 2002/0082012).

The Present Application

The present application describes a WLAN which is installed in a defined space 16, such as a hospital or office building. The access points 14 are disposed at known locations within the defined space and each access point operates at a known, dedicated frequency, different from the dedicated frequency of its nearest neighbor access points. Prior to tracking mobile wireless units, e.g., in a calibration procedure, a map is generated of the defined space, which map includes the location of each access point and the strength of the signals from each access point at each of a large multiplicity of locations.

When tracking a mobile unit, the present application describes a triangulation-like locating technique using the closest access points to the mobile device to determine its exact location on the map. By looking to the map, the present application determines which access points, e.g., which three access points, provide the strongest signal to the mobile unit at its current location. This also enables the system to assign only three frequencies to the mobile device.

As the mobile device moves, the system checks periodically for its location and updates the assigned access points based on its current location or its projected next location as determined from its velocity and trajectory of movement.

Thus, the present application associates the mobile device with the selected subset of access points based on the predetermined map.

This brief summary is provided to assist the Examiner and does not endeavor to explain all aspects of the present application.

The References of Record

The references upon which the Examiner relies do not use a previously-generated map in order to assign access points to a mobile device.

As the Examiner points out, Lee, in paragraph [0035] performs an active scan at appropriate frequencies and obtains or measures the necessary information, i.e., received signal strength. Rather than a map, Lee uses relative signal strengths to find the best access point(s) with which to communicate. It should be noted that this requires scanning numerous frequencies, at which an access point might be located, because Lee does not know which access point is the closest or strongest.

Paragraph [0018] of Gunnarsson, referenced by the Examiner, relates to a technique for determining whether or not a mobile device is in the vicinity of a WLAN and to awaken it only when it is in the vicinity of such a WLAN. Because continuous BLUETOOTH radio interface searching is power intensive, stopping the BLUETOOTH radio interface searching for a wireless LAN when none are available conserves battery power. While conserving battery power is advantageous, the subject matter described in paragraph [0018] of Gunnarsson says nothing about determining or assigning access points based on an access point and field strength map. As reiterated in paragraph [0022], Gunnarsson is only concerned with finding the location and extent of a WLAN and does not suggest the use of a map of access points and frequency strengths within the extent of a WLAN to determine which access point(s) should be assigned to the mobile device.

The Claims Distinguish Patentably
Over the References of Record

Claim 1 has been amended to describe the map of access points and relative signal strengths more forcefully and describe how it is used in tracking and assigning access points to a mobile unit. Lee assigns access points based on signal strength, not a map. Gunnarsson determines whether a mobile device is within the extent of a known WLAN. However, once the mobile device comes within the extent

of the WLAN, Gunnarsson does not use a map to assign access point(s) to the mobile device. Rather, it is submitted that once Gunnarsson finds a compatible WLAN, the combination of Lee and Gunnarsson would continue to assign access points as described in Lee. Accordingly, it is submitted that **claim 1 and claims 4, 6, and 8 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 8 describes how the map is generated. Neither Lee nor Gunnarsson disclose or suggest the generation of an access point and field strength map as described in claim 8. Accordingly, it is submitted that **claim 8** distinguishes over the references of record.

Claim 9 calls for using neighboring access points to calculate a current location of a mobile device. Then, based on a predefined map of relative signal strengths at predefined locations in the defined space, the access points neighboring the current location are identified from the map. By contrast, Lee determines the access points with the greatest signal strength by measuring signal strengths. Gunnarsson, which merely relates to determining whether the mobile device is within the extent of a wireless LAN, provides no motivation for Lee to determine the signal strength of various access points at the wireless device from a map rather than from the already measured signal strengths.

Accordingly, it is submitted that **claim 9 and claims 10-15, 17, and 21-23 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 18 has been placed in independent form including the subject matter of its parent claims. Claim 18 distinguishes over the applied references for several reasons.

First, claim 18 describes a method for generating the relative signal strength map. Neither Lee nor Gunnarsson, as discussed above, generate a map of relative signal strengths.

Second, claim 18 calls for determining a certainty of an accuracy of the calculated location of the mobile device. Based on the certainty being below a requested threshold, claim 18 calls for a large number of access points to be scanned, rather than just the nearest neighbor access points to the location. Neither Lee nor

Gunnarsson disclose or fairly suggest dynamically adjusting a number of access points scanned depending on a certainty of the location of the mobile device. Accordingly, it is submitted that **claim 18 and claims 16, 19, and 20 dependent therefrom** distinguish patentably and unobviously over the references of record.

Claim 24 calls for a assigning nearby access points with the strongest signals based on the calculated location of the mobile unit and a map of relative field strengths. Lee neither generates nor uses a map of relative field strengths to assign access points. Rather, Lee assigns access points based directly on the relative field strength without consulting a map. Gunnarsson suggests a map of WLAN locations and extents, but fails to disclose or fairly suggest a map of relative signal strengths within a WLAN, much less using this or any map in order to assign access points within a WLAN to a mobile unit.
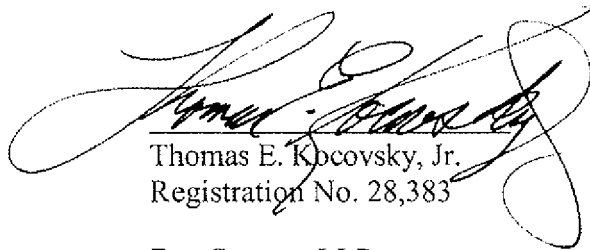
Accordingly, it is submitted that **claim 24 and claims 25-26 dependent therefrom** distinguish patentably and unobviously over the references of record.

CONCLUSION

For the reasons set forth above, it is submitted that claims 1, 4, and 6-26 distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at 216.363.9000.

Respectfully submitted,

Thomas E. Kocovsky, Jr.
Registration No. 28,383

FAY SHARPE LLP
The Halle Building, 5th Floor
1228 Euclid Avenue
Cleveland, OH 44115-1843
Telephone: 216.363.9000 (main)
Telephone: 216.363.9122 (direct)
Facsimile: 216.363.9001
E-Mail: tkocovsky@faysharpe.com